

INTERNATIONAL SEARCH REPORT

International application No.

PCT/AU2003/001471

A. CLASSIFICATION OF SUBJECT MATTER

Int. Cl.⁷: A61M 16/06, A62B 18/02

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
A61M, A62B

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
DWPI +keywords: mask, strap, tension; mask, flexible, cushion; mask, cushion, flange

C. DOCUMENTS CONSIDERED TO BE RELEVANT

| Category* | Citation of document, with indication, where appropriate, of the relevant passages | Relevant to claim No. |
|-----------|--|-----------------------|
| X | US 5,623,923 A (BERTHEAU et al) 29 April 1997 Abstract, column 2 lines 18 to 25 | 1-12 |
| X | US 6,470,887 B1 (MARTINEZ) 29 October 2002 Abstract, column 1 lines 33 to 44 | 1-12 |
| X | US 5,355,878 A (GRIFFITHS et al) 18 October 1994 Abstract | 1-12 |

Further documents are listed in the continuation of Box C

See patent family annex

* Special categories of cited documents:

"A" document defining the general state of the art which is not considered to be of particular relevance

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"E" earlier application or patent but published on or after the international filing date

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

"O" document referring to an oral disclosure, use, exhibition or other means

"&" document member of the same patent family

"P" document published prior to the international filing date but later than the priority date claimed

Date of the actual completion of the international search
9 February 2004

Date of mailing of the international search report

12 FEB 2004

Name and mailing address of the ISA/AU

Authorized officer

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| C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT | | |
|---|---|-----------------------|
| Category* | Citation of document, with indication, where appropriate, of the relevant passages | Relevant to claim No. |
| X | US 5,488,948 A (DUBRUILLE et al) 6 February 1996 Abstract | 1-12 |
| X | WO 1999/043375 A1 (MAP MEDIZINTECHNIK FÜR ARTZ UND PATIENT GMBH & CO) 2 September 1999 Abstract, claim 1 | 13 |
| X | WO 1998/004310 (RESMED LIMITED) 5 February 1998 Abstract, page 3 lines 8 to 24 | 13 |
| X | WO 2001/095965 A1 (FISHER & PAYKEL LIMITED) 20 December 2001 Figure 19 | 30-34 |
| X, P | EP 1 258 266 A1 (TLARA MEDICAL SYSTEMS) 20 November 2002 Abstract | 34 |
| X | US 2001/020474 A1 (HECKER et al) 13 September 2001 Abstract | 34 |

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Box I Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This international search report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. Claims Nos :
because they relate to subject matter not required to be searched by this Authority, namely:

2. Claims Nos :
because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:

3. Claims Nos :
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a)

Box II Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

First invention Claims 1-9, 11-12

Second invention Claims 10, 14-18

Third invention Claim 13

Fourth invention Claims 19-28

Fifth invention Claims 30-34

See extra sheet

1. As all required additional search fees were timely paid by the applicant, this international search report covers all searchable claims
2. As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claims Nos.:
4. No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

The additional search fees were accompanied by the applicant's protest.

No protest accompanied the payment of additional search fees.

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Supplemental Box

(To be used when the space in any of Boxes I to VIII is not sufficient)

Continuation of Box No: II

The international application does not comply with the requirements of unity because it does not relate to one invention or group of inventions so linked as to form a single general inventive concept. In coming to this conclusion the International Searching Authority has found that there are five different inventions as follows:

1. Claims 1-9, 11-12 are directed to a mask with straps comprising active tensioning elements. It is considered that active strap tensioning elements comprises a first "special technical feature".
2. Claims 10, 14-18 are directed to a mask comprising an inflatable pillow that varies the tension of the straps of the mask. It is considered that an inflatable pillow which varies the tension of the straps comprises a second "special technical feature".
3. Claim 13 is directed to a mask frame that can be resiliently flex around the face of the patient. It is considered that a mask frame that can be resiliently flexed comprises a third "special technical feature".
4. Claims 19-28 are directed to applying a force to the mask onto a patient. It is considered that application of a force to mask onto a patient comprises a fourth "special technical feature".
5. Claims 30-34 are directed to a cushion assembly for a mask comprising a cushion flange, an undercushion, a membrane and a flexible element. It is considered that a cushion assembly comprising a cushion flange, an undercushion, a membrane and a flexible element comprises a fifth "special technical feature".

Groups 1, 2 and 4 of claims are not linked as to form a single general inventive concept, that is, they do not share any special technical features. The common concept linking together these groups of claims is a device to vary the tightness of the mask on the face of the user. However this concept is not novel in the light of US 5,623,923 (BERTHEAU et al) Therefore these claims do not relate to one invention only, *a posteriori*.

Groups 1, 2 and 4 of claims do not share any of the special technical features with group 3 or 5, therefore a technical relationship between the inventions does not exist. Accordingly the claims do not relate to one invention or to a single inventive concept, *a priori*.

It is considered that the inventions of groups 1, 2 and 4 are sufficiently similar that they can be searched with only a moderate amount of extra effort than would be required to search any one of these. Consequently only two additional search fees are invited.

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Information on patent family members

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This Annex lists the known "A" publication level patent family members relating to the patent documents cited in the above-mentioned international search report. The Australian Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

| Patent Document Cited in Search Report | | | Patent Family Member | | | | |
|--|---------|----|----------------------|----|------------|----|------------|
| US | 5623923 | CA | 2125440 | EP | 0628325 | FR | 2706311 |
| | | HK | 1007418 | JP | 7136273 | US | 5503147 |
| US | 6470887 | AU | 36097/99 | EP | 1077743 | FR | 2778575 |
| | | ID | 29278 | NO | 20005695 | WO | 9958197 |
| US | 5355878 | CA | 2086241 | EP | 0541569 | WO | 9200120 |
| US | 5488948 | EP | 0645164 | FR | 2710272 | | |
| WO | 9943375 | AU | 27262/99 | DE | 19807961 | EP | 1056500 |
| WO | 9804310 | AU | 12454/97 | AU | 14892/00 | AU | 16355/00 |
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| | | US | 2002174867 | US | 2002174868 | US | 2003034034 |
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| WO | 0195965 | AU | 51876/01 | AU | 51877/01 | AU | 67947/01 |
| | | CA | 2350351 | CA | 2350356 | CA | 2370995 |
| | | CA | 2407118 | CA | 2413938 | EP | 1163923 |
| | | EP | 1163924 | EP | 1289590 | EP | 1302212 |
| | | EP | 1306098 | JP | 2002028240 | JP | 2002095751 |
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| | | US | 2003000533 | US | 2003062048 | US | 2003066531 |
| | | US | 2003089373 | US | 2003111080 | US | 2003154978 |
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| EP | 1258266 | BR | 0201863 | CA | 2386686 | US | 2003019495 |
| US | 2001020474 | DE | 10002571 | EP | 1118346 | | |

END OF ANNEX